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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,053	01/08/2001	Christophe Bertez	S.5229 US - OP/MM	6760

466 7590 10/15/2002

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EXAMINER

JOHNSON, JONATHAN J

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 10/15/2002

15

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/75,053

Applicant(s)

FOUACHE ET AL.

Examiner

Jonathan Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9-19-02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-9,11,12,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-9,11 and 15 is/are rejected.
- 7) ☒ Claim(s) 3,5,12 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9-19-02 has been entered.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 6-9, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen (6,175,096) in view of Nagata et al. (6,313,432). With respect to Claim 1, Nielsen teaches a method of cutting a workpiece made of stainless steel (Column 1, Lines 25-35 and Column 2, Lines 50-56) by the use of at least one transparent or reflecting optical means for focusing at least one laser beam in which the optical means is of the multifocus type (Figure 1a and Item 1a). Nielsen teaches the use of an assist gas using nitrogen but does not specify an oxygen or oxygen/nitrogen mixture (Column 1, Lines 45-55). Nagata et al. teach an assist gas

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for said laser beam cutting, wherein the assist gas is oxygen or an oxygen/nitrogen mixture (Column 9, Lines 10-30). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the assist gas of Nielsen to utilize an oxygen/nitrogen mixture in order to produce a high quality cut even when the material is cut at a high speed (see Nagata et al. Column 2, Lines 9-35).

With respect to Claims 2 and 11, the teachings of Nielsen and Nagata et al. are the same as relied upon in the rejection of Claim 1. Nielsen teaches the multifocus optical means is chosen from a bifocal lens (Claim 3).

With respect to Claim 6 and 15, the teachings of Nielsen and Nagata et al. are the same as relied upon in the rejection of Claim 1. Nielsen teaches the optical means is arranged so as to obtain at least one focusing point positioned near the upper surface of the workpiece to be cut (Figure 1a, item F1) and at least one second focusing point positioned near the lower surface of the workpiece to be cut and in the thickness of the latter (Figure 1a, item F2) wherein the first focusing point is positioned so as to coincide with the upper surface (Figure 1a, F1).

With respect to Claim 7, the teachings of Nielsen and Nagata et al. are the same as relied upon in the rejection of Claim 1. Nielsen teaches the thickness of the workpiece can be as high as 15 mm, however it would have been obvious to one of ordinary skill in the art at the time of the invention to decrease the thickness of the workpiece to be cut to be between 1.5mm and 5mm in order to minimize slag and increase the cut quality (see Nielsen Column 1, Lines 30-37).

With respect to Claim 8, the teachings of Nielsen and Nagata et al. are the same as relied upon in the rejection of Claim 1. Nielsen teaches the workpiece is chosen from plates (Claim 1).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen and Nagata et al. (6,313,432) as applied to Claim 1 above and further in view of McNeill (4,781,907). McNeill teaches a nitrogen/oxygen mixture obtained from air treated by a membrane system (Column 1, Line 40 through Column 2, Line 65). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the assist gas of Nielsen and Nagata et al. to utilize the membrane system in order to achieve a relatively pure nitrogen stream (see McNeill Column 1, Lines 40-47).

***Allowable Subject Matter***

Claims 3, 5, 12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: The prior art of record does not suggest or teach a method of cutting a steel or aluminum workpiece using a laser, particularly the concentrations of the oxygen/nitrogen assist gas.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 703-308-0667. The examiner can normally be reached on M-Th 7AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

jj  
October 3, 2002

  
ALEXANDRA ELVE  
SENIOR EXAMINER